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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,837	07/20/2005	Adrian Johan Van Leest	48588-47163	9005

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EXAMINER

BITAR, NANCY

ART UNIT	PAPER NUMBER
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2624

NOTIFICATION DATE	DELIVERY MODE
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12/10/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/542,837	Applicant(s) VAN LEEST ET AL.	
	Examiner NANCY BITAR	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's response to the last Office Action, filed 01/22/2009, has been entered and made of record.
2. Applicant has amended claims 1-10. Claims 1-10 are currently pending.
3. Applicants arguments filed 07/08/2009 have been fully considered but they are not persuasive.
4. Applicant argues that he cited prior art fails to teach or suggest the claimed invention wherein a watermark is represented by a sequence of watermark samples each having a first or a second value, an image is divided into at least a first and a second image area, a global property of the first and the second image area is determined, and the image is modified to:
 - increase the global property of the first area and decrease the global property of the second area for embedding the first value of a watermark sample into the image,
 - or** decrease the global property of the first area and increase the global property of the second area for embedding the second value of the watermark sample into the image.In response, Examiner refers to Kalker et al. that teaches the steps of determining, for each image, a global property of the pixels constituting said image, and modifying the global property of each image of a sequence of images in accordance with the corresponding watermark sample [008-0010]. Furthermore, Kalker teaches in figure 1 increasing the luminance of every pixel of frame n by 1 if the watermark sample $w(n)=+1$, and decreasing by 1 if $w(n)=-1$ see paragraph

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[0015-0018].Therefore, the global property is being modified . Additionally, Examiner used a secondary reference Haitsma that teaches an image is subdivided into a plurality of tiles and a watermark is embedded by modifying each tile by embedding the watermark in each tile and modifying the color accordingly (figure 1, 9A, 9B). It is obvious to one skilled in the art to modify the global property as taught by Kalker in Haitsma divided areas in order to achieve sufficient robustness and increase in copy protection. Additionally the applicant's argument that the combination of all the features recited in claims 1 makes the applicant's invention patentable different is not found persuasive and thus Kalker and Haitsma still reads on the applicant's claimed invention. All remaining arguments are reliant on the aforementioned and addressed arguments and thus are considered to be wholly addressed herein.

Examiner Notes

5. Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-10 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Kalker et al (US 2004/0250079) in view of Haitsma et al (US 6,477,431)

As to claim 1, Kalker et al teaches the method of embedding a watermark in a motion image signal (embedding a watermark in a motion image signal, Paragraph [0001]), the method comprising the steps of:

representing the watermark by a sequence of watermark samples (The embedded further receives a watermark in the form of a pseudo-random sequence $w(n)$ of length N , where $w(n) \in [-1, 1]$, Paragraph [0014]) each having a first or a second value (paragraph [0014-0015]); determining a global property of the first and the second image area (the method according to the invention comprises the steps of determining, for each image, a global property of the pixels constituting said image, para [008-0011]) modifying the image to increase the global property of the first area and decrease the global property of the second area for embedding the first value of a watermark sample into the image, or to decrease the global property of the first area and increase the global property of the second area for embedding the second value of the watermark sample into the image (and modifying the global property of each image of a sequence of images in accordance with the corresponding watermark sample. In a

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preferred embodiment, said global property is the mean luminance of an image, paragraph [0008]). While Kalker meets a number of the limitations of the claimed invention, as pointed out more fully above, Kalker fails to teach dividing an image of the motion image signal into at least a first and a second image area; . Specifically, Haitsma et al teaches The accumulated frames are subsequently partitioned (22) into blocks of size $M \times M$ ($M=128$) and all the blocks are stacked (23) in a buffer q of size $M \times M$. This operation is known as folding. FIG. 5 illustrates this operation of folding. Moreover, Haitsma et al teaches the strength of the final watermark is determined by a global depth parameter d which provides a global scaling (18) of $W(K, P)$. A large value of d corresponds to a robust but possibly visible watermark. A small value corresponds to an almost imperceptible but weak watermark. The actual choice of d will be a compromise between the robustness and perceptibility requirements. The watermarked image Q is obtained by adding (12) $W = d \times W(K, P)$ to P , rounding to integer pixel values and clipping to the allowed pixel value range. It would have been obvious to one of ordinary skill in the art to divide the motion signal to upper and lower halves in order to achieve sufficient robustness and increase in copy protection. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

As to claims 2 and 3, Kalker et al in view of Haitsma et al, teaches the method of claim 1, wherein the global property is the mean luminance value of the respective image area (the method according to the invention comprises the steps of determining, for each image, a global property of the pixels constituting the image, and modifying the global property of each image of a sequence of images in accordance with the corresponding watermark sample. Note that the global property is the mean luminance of an image; paragraph [0008-0015])

As to claims 4 and 5, Kalker et al in view of Haitsma et al , teaches the method of claim 1, wherein the first and second image areas are the upper and lower of an image halves, respectively (paragraph[0018-0019])).

The limitation of claims 6- 8 has been addressed above except for the following: correlating for the series of images the respective difference with the watermark to be detected Kalker et al teaches that limitation in (paragraph [0011], [0024]); see also Haitsma et al figure 5)

As to claims 9, Kalker et al in view of Haitsma et al , teaches the method of claim 7, further including the step of subtracting from the series of global properties a low-pass filtered version thereof, and applying the correlating to the subtracted signal (subtractor 8, laplacian filter 4; paragraph[0021])).

As to claim 10, Kalker et al in view of Haitsma et al , teaches the method of claim 9, further including determining the sign of the subtracted signal, and applying the correlating step to the sign (The contents of each buffer are cross-correlated with the reference watermark in respective correlators 231, 232, . . . The correlation is preferably performed using Symmetrical Phase Only Matched Filtering (SPOMF); paragraph [0024]).

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NANCY BITAR whose telephone number is (571)270-1041. The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nancy Bitar/
Examiner, Art Unit 2624

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Primary Examiner, Art Unit 2624